

USDA Foreign Agricultural Service

GAIN Report

Global Agricultural Information Network

THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY
USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT
POLICY

Voluntary Public

Date: 7/13/2015

GAIN Report Number: GM15015

EU-28

Post: Berlin

Biofuel Mandates in the EU by Member State

Report Categories:

Biofuels

Trade Policy Monitoring

Approved By:

Kelly Stange

Prepared By:

Sabine Lieberz

Report Highlights:

This report provides an overview on the biofuel use mandates in the various EU-28 member states.

General Information:

This report was a group effort of the following FAS analysts:

Ornella Bettini of FAS/Rome covering Italy

Mila Boshnakova of FAS/Sofia covering Bulgaria

Monica Dobrescu of FAS/Bucharest covering Romania

Dimosthenis Faniadis of FAS/Rome covering Greece

Bob Flach of FAS/The Hague covering the Netherlands and the Nordics

Gellert Golya of FAS/Budapest covering Hungary

Marta Guerrero of FAS/Madrid covering Spain and Portugal

Mira Kobuszynska of FAS/Warsaw covering Poland and the Baltic States

Roswitha Krautgartner of FAS/Vienna covering Austria and Slovenia

Lucile Lefebvre of FAS/Paris covering France

Sabine Lieberz of FAS/Berlin covering Germany

Jana Mikulasova of FAS/Prague covering the Czech Republic and Slovakia

Andreja Misir of FAS Zagreb covering Croatia

Jennifer Wilson of FAS/London covering the UK and Ireland

Introduction:

The 2009 [EU Energy and Climate Change Package](#) (CCP) includes a 10 percent minimum target for renewable energy consumed by the transport sector to be achieved by all EU member states (MS) in their countries in 2020. Many MS have adopted minimum biofuel use mandates in order to achieve this goal. This report provides an overview about the current and future mandates of the various MS. The tables represent the status quo of the law on June 22, 2015. If changes are being discussed but not yet adopted these are mentioned in the text below the tables.

Abbreviations and definitions used in this report

% Cal = percent energy content

% Vol = percent volume

% Biodiesel = minimum percentage of biodiesel in total diesel use

% Bioethanol = minimum percentage of bioethanol in total gasoline use

% Overall = minimum percentage of biofuels in total fuel use

All of the above refer to fuel use in the transport sector.

1G = first generation biofuel = produced from agricultural crop that could be used as food or feed

2G = second generation biofuel = produced from cellulosic or waste material

Biodiesel = Fatty acid methyl ester produced from agricultural feedstock (vegetable oils, animal fat, recycled cooking oils) used as transport fuel to substitute for petroleum diesel

Bioethanol = Ethanol produced from agricultural feedstock used as transport fuel

Double counting = certain biofuels are counted twice against the mandates. Definition and eligible feedstocks vary by MS.

EC = European Commission

ETBE = Ethyl tert-butyl ether, an oxygenate gasoline additive containing 47% vol ethanol

EU = European Union

GHG = greenhouse gas

GJ = Gigajoule = 1,000,000,000 Joule or 1 million KJ

HVO = Hydrotreated Vegetable Oil

Ktoe = 1000 MT of oil equivalent = 41,868 GJ = 11.63 GWh

MJ = Megajoule

MS = Member State(s) of the EU

Mtoe = Million tons of oil equivalent

MWh = Mega Watt hours = 1,000 Kilo Watt hours (KWh)

Nordics = Denmark, Sweden, Finland, Norway, and Iceland

TME = Biodiesel based on animal fats

Toe = Tons of oil equivalent = 41,868 MJ = 11.63 MWh

TWh = Tera Watt hours = 1 billion Kilo Watt hours (KWh)

UCO = Used cooking oil/ recycled vegetable oil

UCOME = UCO based methyl ester biodiesel

Austria

	Overall Percentage (energy content, % cal)	Biodiesel (% cal)	Bioethanol (% cal)	Double counting
Since 2012	5.75	6.3	3.4	yes

Source: Fuels Order 2012

Double counting: Waste materials and residual products from agricultural and forestry production including fisheries and aquaculture, residues from processing, cellulosic non-food materials and lingo-cellulosic materials

Belgium

	Overall Percentage	Biodiesel (% vol)	Bioethanol (% vol)	Double counting
	-	6.0	4.0	

Source: F.O.Licht January 2015

Bulgaria

Biodiesel (% vol)		Bioethanol (% vol)		Double counting
Since June 1, 2012	6%			No
		September, 1, 2014	6%	
		March 1, 2015	7%	
		January 1, 2018	8%	
		January 1, 2019	9%	
		January 1, 2020	10%	

Croatia

	Overall Percentage (% cal)	Biodiesel	Bioethanol	Double counting
2014	3.18			Second generation and waste based biofuels
2015	3.88			
2016	4.89			
2017	5.89			
2018	6.92			
2019	7.85			
2020	8.81			

Source: Act on Biofuels for Transport (Official Gazette 65/09, 145/10, 26/11 and 144/12)

http://narodne-novine.nn.hr/clanci/sluzbeni/2010_04_42_1066.html

http://narodne-novine.nn.hr/clanci/sluzbeni/2010_11_125_3243.html)

Czech Republic

	Share of biofuels and renewable electricity in transportation on total consumption (% cal)	Obligation to reduce total GHG emissions by (%)	Minimum GHG emissions savings in biofuels (%)	Double counting
2014 - 2016	5.71	2	35	No
2017 - 2019	8.00	4	50	
2020	10.00	6	60	

Source: Act on Air Protection 201/2012 and Government Directive 351/2012

Denmark

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	Double counting
Since 2010	5.75			

Since January 2010, fuel companies are obliged to ensure that biofuels make up at least 5.75% of total annual sales of fuel. The companies are obliged to report the 5.75% obligation to the Danish Energy Agency (DEA) annually. The DEA encourages them to use the voluntary certification schemes.

The Danish Biofuel Act is to be amended in order to secure mixes with 10% biofuels by 2020, subject to an analysis of alternative methods of meeting the renewable energy target for transport.

Finland

	Overall Percentage (% cal)	Biodiesel	Bioethanol	Double counting
2014	6.0			
2015	8.0			

Source: F.O.Licht January 12, 2015, p 154

France

	Bioethanol (objective, % cal)	Biodiesel (objective, % cal)	Double counting
2010 to 2013	7 %	7 %	
Since 2014	7 % of which up to 0.25 % double-counted bioethanol	7.7 % of which up to 0.35 % double-counted biodiesel	cellulosic biofuels and waste biofuels up to the maximum values stated on the left

Since 2014, in order to favor “second generation (2G)” biofuels (produced from cellulosic or waste material), 2G biofuels are doubled-counted. The quantity of 2G biofuels that can be double-counted is limited in order to favor biofuels produced in France (if the quantity of double-counted biofuels was not limited, this measure could lead to an increase in imports of 2G biofuels at the expense of domestic 1G biofuels).

Germany

	% Cal	% GHG savings (BImSchG) ¹	% GHG savings of each biofuel (RED) ²	Double counting
2009-2014	6.25 overall 4.4 biodiesel 2.8 bioethanol		35%	2011-2014 HVO, UCOME TME excluded
2015		3.0	35 %	No
2017		4.0	50 %	
2018		4.0	60% for biofuels produced in installations that started after Jan 1, 2017	
2020		6.0		

Source: § 37a Federal Act on Protection against Air Pollution

(Bundes-Immissionsschutzgesetz) http://www.gesetze-im-internet.de/bimschg/_37a.html

Notes:

- 1) Percentage of GHG savings of total fuel use (fossil and renewable) compared to the hypothetical GHG emissions had all the fuel been of fossil origin
- 2) GHG saving of each biofuel compared to GHG emissions of the respective fossil fuel

Double counting expired at the end of 2014 with the transition to a GHG reduction mandate.

Hydrotreated vegetable oil (HVO) and used cooking oil based biodiesel (UCOME) enjoy competitive advantages only based on their higher GHG reduction compared to first generation biofuels.

Greece

	Overall Percentage (% cal)	Biodiesel	Bioethanol	Double counting
2014	5.75%			No
2015	5.75%			
2020	10			

Since December 2005, pure biodiesel is blended (according to EN 590:2004) by the four Greek oil refineries in diesel used in transport up to 5% by volume. Since 2010, by decision 460/2009 (O.G. B' 67/28.01.2010) of the State Chemical Council (SCC) the EN 590:2009 standard was adopted formally and the maximum biodiesel percentage was increased to 7%. Currently, new legislation is being prepared for the increase of the maximum biodiesel percentage to 10%, according to Directive 2009/30/EC.

The estimated domestic supply of biomass from agriculture for 2015 and 2020 mainly refers to oil crops – sunflower and rapeseed. To cover the 5.75% biofuels target, around 148,000 tons of biodiesel have to be produced by 2010 according to the Greek Ministry of Environment, Energy and Climate Change (MEECC). These quantities require around 16,000 hectares, assuming that 9.2 tons of biodiesel are produced per hectare on average. In order to meet the energy targets for biofuels for transport - for 2015 and 2020 –a substantial reform of agricultural practices and possibly some imports will be needed.

Hungary

According to [Hungary's National Renewable Energy Action Plan](#) and the EU's expectations (RED), 10% of the transport fuel has to come from renewable sources such as biofuels by 2020. This obligation has come into force by the CXVII/2010 Act on promoting the use of renewable energy and the reduction of greenhouse gas emission of energy used in transport. By 2020, 56.8% (304ktoe) of renewable energy sources used in transport has to be bioethanol and 37.8% (202 ktoe) has to be biodiesel in Hungary.

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	Double counting
2014-15		4.9	4.9	Waste materials and residual products from agricultural and forestry production, including biofuels from non-food cellulosic and ligno-cellulosic materials
2020		202 Ktoe	304 Ktoe	

Sources:

2014-15: Government Decree No. 343/2010 on requirements and certification of sustainable biofuel production

2020: [Hungary's National Renewable Energy Action Plan](#)

Double counting: §2 (4) of CXVII/2010 Act on promoting the use of renewable energy and the reduction of greenhouse gas emission of energy used in transport

Ireland

	Overall Percentage (% volume)	Double counting
2010 - 2012	4.166	No
Since 2013	6.383	

Italy

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	Double counting
2014	5.0			Yes
2015	5.0			No

As reported by the National Energy Strategy (NES) 2013, Italy plans to reach the 19-20 percent share of the gross final consumption from renewables by 2020, equal to 23-24 Mtoe of final energy per year.

The Netherlands

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	Double counting
2014	5.5			Yes
2015	6.25			
2016	7.0			
2017	7.75			
2018	8.5			
2019	9.25			
2020	10.0			

Poland

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	Double counting
2014 - 2016	7.1			Yes
2017	7.8			
2018	8.5			

FAS Warsaw

Portugal

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol/ ETBE (% cal)	Double counting
2014	5.5		-	Yes
2015-2016	7.5		2.5	
2017-2018	9		2.5	
2019-2020	10		2.5	

Sources:

Consumption targets: [Decree-Law 117/2010](#)

Double counting: [Decree-Law 117/2010](#) and [Annex III in Implementing Order 8/2012](#)

In addition, domestically produced non-food raw materials, receive 1.3 TdB (Biofuels entitlements) per Toe produced. Each Toe of biofuel produced from domestically grown agricultural raw materials is granted with 1.1 TdB. However this additional value for domestic raw materials is just valid at the domestic Portuguese level and cannot be reported to the EC as part of the mandate compliance.

Romania

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	Double counting
2014 - 2015		5.0	4.5	
2016		6.5	4.5	

Slovak Republic

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	ETBE		Double Counting
				Total ETBE	Thereof bioethanol component	
2015	5.5	6.8	4.5	3%	1.41%	No
2016	5.5	7.6	4.6			
2017	5.8	7.8	4.7			
2018	7.2	9.7	5.9			
2019	7.5	10.1	6.2			
2020	8.5	11.5	7.0			

Source : Act no. 309/2009 on Support of Renewable Energy Resources

Changes to this legislation are foreseen for 2015. These are expected to include a lower minimum blending percentage for biodiesel of 7 percent, for 2016 and further years. Suppliers of fuels for transport objected to the higher blending percentages, as the EU technical standard (fuel directive) set 7 percent as maximum.

Slovenia

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	Double counting
Since 2010	5			yes

Spain

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	Double counting
Since 2013	4.1	4.1	3.9	N/A

On April 16, 2014, the Government of Spain published the list of raw material eligible for double counting against biofuels consumption mandates in the Official Gazette. This list includes used oils of animal or vegetal origin, animal fats (Categories 1 and 2 of [Regulation \(CE\) 1069/2009](#)). However, the double counting will only enter into force after more detailed guidelines are issued, presumably not earlier than 2016, once sustainability requirements are fully in place.

The enforcement of the double counting provision would contribute to further reducing the market for biofuels made out of conventional feedstock. This potential market reduction will mainly affect to the biodiesel sector, as no bioethanol raw material has been granted with double counting.

Sweden

A system for mandatory blending is in preparation but no details have been decided, yet.

United Kingdom

	Overall Percentage (% vol)	Double Counting
2008-2009	2.50	
2009-2010	3.25	
2010-2011	3.50	
2011-2012	4.00	Approved waste and residue feedstocks
2012-2013	4.50	
Since 2013	4.75	

